

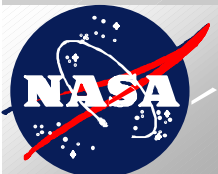


APPLIED INFORMATION TECHNOLOGY DIVISION

Desktop Video Technology

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**National Aeronautics and Space Administration
Ames Research Center**

June 15, 1998



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Agenda

- Overview of ARC Desktop Video Project - Steve Kyramarios
- Compression and Advanced Applications - Dr. John McGowan
- Product Evaluation and Interoperability Testing - Mike Fitzjarrell



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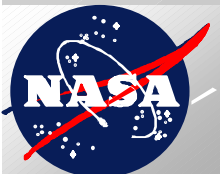
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Project Objectives

- Establish desktop video standards for the Agency to ensure interoperability, scalability and efficient migration paths
- Provide technical input and strategic direction to the NASA CIOs, PCCA and the BOB team.
- Perform advanced applications research and development in desktop video technologies such as compression algorithms, effects related to human factors, and connectivity/distribution of video related applications



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Approach

- Identification of protocol to help ensure interoperability between products and platforms
- Identification of standard compliant products
- Evaluation of vendor solutions (based on evaluation criteria document)
- Interoperability testing to ensure standards compliance
- Endorse product providing “evaluation criteria” and interoperability testing is satisfactory



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Recommendations

- **Standard**
 - ITU-T H.323 Standard approved for Desktop Conferencing
- **H.323 Clients**
 - PictureTel LiveLan
 - Microsoft NetMeeting
 - VCON Cruiser Series
 - Intel Business System
- **H.323 Multipoint Controllers**
 - PictureTel NetConference





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Streaming Video

- **Solutions in review**

- Real Media

- Live and on-demand, hi-fi sound with eq. control, picture quality control, and scan, preset, and record controls

- Microsoft NetShow

- Live and on-demand, auto codec download, support for broadcast quality video on high bandwidth networks

- ICAST

- Mbone client for the PC (beta Macintosh viewer), broadcaster, Recorder, relay, and metering.





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Research & Development

- **Compression Technology**

- Joint support for DCTune (JPEG helper application)
- Comparison between DCT, Wavelet and Fractal based compression algorithms
- Digital Video Quality (objective visual quality measurement)

- **Networking**

- Multicasting via the Mbone i.e. NASA TV and STS Missions
- Performance evaluations of H.323 over NREN





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Future Work

- **Standards**

- Continue H.323 product evaluations and interoperability testing
- Continue working with Agency Communication Teams to ensure proper Desktop Video representation

- **Research and Development**

- Support for DCTune (bug fixes and MJPEG migration)
- Continue compression research
- Drive LAN multicast implementation
- Continue product testing over NREN/NGI

